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In the Supreme Court of the United States

ENTERGY CORP.,

PSEG FOSSIL LLC AND PSEG NUCLEAR LLC,

AND

UTILITY WATER ACT GROUP,

PETITIONERS,

V.

RIVERKEEPER INC, ET AL.

RESPONDENTS.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF OF *AMICI CURIAE* THE AEI CENTER FOR REGULATORY AND MARKET STUDIES AND 33 INDIVIDUAL ECONOMISTS IN SUPPORT OF PETITIONERS

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INTEREST OF *AMICI CURIAE*

This brief is being submitted on behalf of a group of economists.[1] The purpose of this brief is to provide information to the Court related to the appropriateness of using benefit-cost comparisons in the context of § 316(b) of the Clean Water Act, a section regulating the cooling water intake technology—in the interest of protecting fish and shellfish—of electricity generating units and certain other facilities that require large quantities of water to cool equipment for operational and safety reasons. We emphasize that the brief does not address the legal question of whether the U.S. Environmental Protection Agency ("EPA") has statutory authority to consider the benefits and costs of alternatives in setting requirements for facilities covered under §316(b). Nor does our brief discuss specifics of how benefit-cost comparisons should be used under that section or under the Clean Water Act more generally. Rather, we provide an overview of the extensive historical precedent for comparing benefits and costs in evaluating environmental regulations and the general principles regarding such comparisons that are widely accepted by economists.

As practicing economists and citizens, we have a substantial interest in seeing that EPA is allowed to compare benefits and costs to help it identify the

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[1] No counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than amicus curiae, its members, or its counsel made a monetary contribution to its preparation or submission. The parties have consented to the filing of *Amicus* briefs.

relevant tradeoffs and make sound decisions under §316(b). The societal resources at stake are substantial with regard both to §316(b) of the Clean Water Act and environmental, health and safety regulation more generally. Indeed, it is not uncommon for permitting decisions concerning individual plants under §316(b) to include fish-protection measures that may cost hundreds of millions of dollars. The economists who are signatories to this brief have identified general principles that we believe are appropriate in making decisions regarding fish protection under §316(b) and other environmental measures. We submit this brief in the interest of improving environmental decision-making.

BACKGROUND

A. Issue Presented to the Court

We understand that the issue before the Court is, in the words of the Government's brief responding to the petition for a writ of certiorari,

> Whether Section 316(b) of the Clean Water Act, 33 U.S.C. 1326(b), authorizes the Environmental Protection Agency (EPA) to compare costs with benefits in determining the "best technology available for minimizing adverse environmental impact" at cooling water intake structures.[2]

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[2] Br. for Federal Resp'ts in Opp'n at (I)

We further understand that the issue is not whether EPA is required to base its decisions regarding "best technology available" (or "BTA") on a benefit-cost test, but only whether the Agency is allowed to weigh costs and benefits, among other factors, in deciding what controls must be installed to reduce fish and shellfish losses at the water intake structures of affected facilities.

We further understand that this issue is before the Court in part because of a difference among circuit courts, with the current Second Circuit decision in conflict with a prior First Circuit interpretation of the legality of comparing benefits and costs.[3]

As economists, we are not qualified to opine on how to interpret the statutory language of §316(b) or on how prior case law applies in this area. Rather, we respectfully offer our observations on the economic issues presented in this case in the hope that the comments will prove useful to the Court.

B. Comparisons of Benefits and Costs under Section 316(b) of the Clean Water Act

Our understanding is that for several decades, EPA (and the state agencies that have assumed permitting authority in some states) implemented §316(b) on a case-by-case basis that included weighing costs and benefits and declining to require technology "whose cost is wholly disproportionate to the environmental benefit to be gained," as affirmed

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[3] *Seacoast Anti-Pollution League* v. *Costle*, 597 F.2d 306 (1st Cir. 1979)

in a 1979 decision by the First Circuit.[4] We understand that under the terms of a consent decree requiring the issuance of regulations implementing §316(b) on a national basis, in 2004 EPA issued its "Phase II" rules (applying to about 550 existing power plants) that are at issue in this case. EPA's Phase II rules set national performance standards for BTA and also allowed facilities to request site-specific standards for BTA where they could provide information on costs and benefits and, if appropriate, demonstrate that the costs of meeting the national standards would be "significantly greater" than the benefits.[5] The technology selected by the permitting authority under the site-specific provision has to achieve an efficacy level that comes as close as practicable to the national performance standards without resulting in costs that are "significantly greater" than the benefits.

As we understand it, *Riverkeeper II* [6] found that EPA is prohibited from comparing costs and benefits in setting requirements under §316(b) or authorizing site-specific determinations. EPA may consider costs but only in determining whether a technology can be "reasonably borne" by the industry as a whole or in choosing among equally protective alternatives (what *Riverkeeper II* calls a "cost-effectiveness" analysis). EPA is *not* allowed under *Riverkeeper II* to consider costs in relation to benefits—to consider,

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[4] *Id.*

[5] Office of Water, EPA, *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule* (2004)

[6] *Riverkeeper, Inc.* v. *United States EPA*, 475 F.3d 83 (2d Cir. 2007)

for example, whether the costs of a slight improvement in fish protection are disproportionate to the benefits.

SUMMARY OF ARGUMENT

As economists, we believe that the Second Circuit's ruling, by not allowing the consideration of important information about the relationships between the benefits and costs of alternatives, is economically unsound. In particular, we believe that, as a general principle, regulators cannot make rational decisions unless they are allowed to compare costs and benefits and to use the results, along with other factors as appropriate, to choose among alternatives.

To the extent permissible under the statute and case law, EPA should be allowed to consider benefits and costs in establishing rules for implementing §316(b). We believe it would not be sensible to preclude the comparison of benefits and costs in setting §316(b) requirements. The potential costs of setting technology-based requirements for cooling water intakes can be very large, on the order of hundreds of millions of dollars for a single facility.

The Court's allowing EPA to consider benefits and costs would improve both the decision making process—by making it more transparent—and the regulatory decisions by allowing important relevant information to be considered explicitly.

ARGUMENT

A. Benefit-Cost Comparisons Are a Well-Established Tool to Foster Rational Decision Making

The general concept of comparing benefits and costs is familiar and long standing. Indeed, in 1772, Benjamin Franklin wrote in a letter about a method for making private decisions (which Franklin called "Moral or Prudential Algebra") that illustrates the basic features of benefit-cost assessments.[7] He recommended carefully listing pros (i.e., benefits) and cons (i.e., costs), estimating weights (i.e., valuing them in some common unit, such as dollars), and then determining their balance (calculating net benefits equal to benefits minus costs). Franklin's letter emphasizes the crucial importance of following a systematic process in complex situations in which there are a host of factors pointing one way or the other for a given decision. Specifically, Franklin writes:

> When those difficult cases occur, they are difficult chiefly because while we have them under Consideration, all the Reasons pro and con are not present to the Mind at the same time; but

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[7] "Letter to Joseph Priestly" in *Benjamin Franklin: Representative Selections, with Introduction, Bibliography and Notes*, Frank Luther Mott and Chester E. Jorgenson, eds., (New York: American Book Company, 1936 pp. 348-349), as cited in Boardman et al., Cost-Benefit Analysis: Concepts and Practice, Second Edition, (New Jersey: Prentice Hall, 2001, pp. 1-2).

> sometimes one Set present themselves, and at other times another, the first being out of sight. Hence the various Purposes or Inclinations that alternatively prevail, and the Uncertainty that perplexes us.[8]

The basic logic of Franklin's advice—that pros and cons should be described and compared to one another in making decisions—applies in the case of important environmental and other government regulatory decisions. Indeed, this basic logic and the increase in the importance of environmental, health and safety regulation over the past three decades has led all presidents since President Carter in 1978 to establish formal procedures requiring the preparation of benefit-cost assessments for various federal regulations.[9] President Carter issued Executive Order 12044 in 1978 to require federal agencies to conduct detailed regulatory analyses of certain proposed rules. President Reagan's 1981 Executive Order 12291 required agencies to evaluate the costs and benefits of all major future rules.[10] The first President Bush continued Executive Order 12291 when he took office in 1989.

In 1993, President Clinton issued Executive Order 12866 which also required that agencies compare the benefits and costs of major rulemakings and set guidelines for using the results of these assessments in regulatory decision making.[11] The

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[8] *Id.*

[9] 43 Fed. Reg. 12,661 (1978)

[10] 46 Fed. Reg. 13,193 (1981)

[11] 58 Fed. Reg. 51,735 (1993)

current President Bush continued Executive Order 12866 with relatively minor changes although in 2007 he issued Executive Order 13422 that required agencies to consider the need for and consequences of regulatory "guidance" (i.e., agency interpretation or policy on a regulatory issue that is generally non-binding).[12]

These executive orders have emphasized the importance of balancing costs and benefits and maximizing the net benefits (i.e., benefits minus costs) in setting regulations. Executive Order 12866 requires that agencies "propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."[13]

The similarity in the language of these executive orders across decades indicates the bipartisan support for comparing benefits and costs in making regulatory decisions. President Reagan's Executive Order 12291 stated that,

> Regulatory action should not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society ... Regulatory objectives shall be chosen to maximize the net benefits to society.[14]

In a similar vein, President Clinton's Executive Order 12866 notes that,

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[12] 72 Fed. Reg. 2,763 (2007)

[13] 58 Fed. Reg. 51,736 (1993)

[14] 46 Fed. Reg. 13,193 (1981)

> In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating ... Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits . . . unless a statute requires another regulatory approach.[15]

All presidents since Jimmy Carter have emphasized the importance of weighing benefits and costs in making regulatory decisions concerning the environment and other areas. Indeed, a prominent legal scholar writing in 2000 concluded that the nation was nearing the end of a "first generation" debate about balancing benefits and costs through the development of benefit-cost "default principles".[16] In this context, he argued, the issue of whether benefit-cost analysis should be allowed to assist in sound decision making has been resolved, with "second generation" issues including details of how to implement the benefit-cost methodologies.

The practical assessment of benefits and costs has been furthered by detailed guidance on how it can be applied in environmental regulatory settings. EPA has provided important guidelines for assessing benefits and costs, first in 1983 and more recently in

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[15] 58 Fed. Reg. 51,735 (1993)

[16] Cass Sunstein. *Cost-Benefit Default Principles*, AEI-Brookings Joint Center for Regulatory Studies, Working Paper 00-7 (2000).

2000.[17] These guidelines provide detailed guidance on the key concepts involved in implementing such assessments. The EPA Guidelines were thoroughly reviewed by the Environmental Economics Advisory Committee of EPA's Science Advisory Board, comprised of thirteen well-recognized economists. The Office of Management and Budget has developed similar guidelines.[18]

In summary, carefully considering the social benefits and social costs of a given regulatory decision makes good sense, as presidents over the last three decades have recognized. Economists and other analysts have developed methods for making these assessments that fall under the general label of benefit-cost analysis. Benefit-cost assessments do not provide "answer machines" but rather provide a useful framework for evaluation of regulatory alternatives. As Franklin's early example makes clear, this framework is particularly important when the factors involved are complicated and numerous.

B. A Group of Economists Has Developed Consensus on the Use of Benefit-Cost Assessments for Environmental Regulation

There is a wide consensus among economists on various fundamental principles regarding the assessment of benefits and costs. In 1996, a group of distinguished economists assembled to develop principles for assessing benefits and costs in

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[17] EPA, *Guidelines for Preparing Economic Analyses* (2000).

[18] Office of Management and Budget. Circular A-4 to the Heads of Executive Agencies and Establishments. (Sept. 17 2003).

environmental, health and safety regulation. The resulting Statement of Principles was published jointly by the American Enterprise Institute, the Annapolis Center, and Resources for the Future.[19]

These same principles can inform what we believe to be the appropriate use of benefit-cost comparisons in making decisions under Section 316(b). The following is a summary of principles that we believe underlie the appropriate use of benefit-cost comparisons in making decisions under this section.[20]

Benefit-cost assessments provide a useful means of organizing a comparison of the favorable and unfavorable effects of proposed policies. Systematic comparisons of benefits and costs can help decision makers better understand the implications of various decisions. Such comparisons can provide useful estimates of the overall benefits and costs of

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[19] Kenneth J. Arrow, Maureen L. Cropper, George C. Eads, Robert W. Hahn, Lester B. Lave, Roger G. Noll, Paul R. Portney, Milton Russell, Richard Schmalensee, V. Kerry Smith, and Robert N. Stavins. *Benefit-Cost Analysis in Environmental, Health, and Safety Regulation: A Statement of Principles.* American Enterprise Institute, The Annapolis Center, and Resources for the Future (1996). A similar statement was published in Science magazine, Kenneth J. Arrow, Maureen L. Cropper, George C. Eads, Robert W. Hahn, Lester B. Lave, Roger G. Noll, Paul R. Portney, Milton Russell, Richard Schmalensee, V. Kerry Smith, and Robert N. Stavins. *Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?*. Science (Apr. 12, 1996). pp. 221-222.

[20] These principles also draw on similar ideas put forth in an *Amicus* brief filed with this court in 2000. Brief *Amici Curiae* for AEI-Brookings Joint Center for Regulatory Studies in *Whitman* v. *American Trucking Associations*, 531 U.S. 457 (2001).

proposed decisions. In many cases, these comparisons cannot be used to prove that the economic benefits of a particular decision will exceed or fall short of the costs because of uncertainties involved. But comparisons of benefits and costs can play an important role in informing the decision process even when the results are not conclusive.

Agencies should not be bound by a strict benefit-cost test, but should be allowed to consider available estimates of benefits and costs. There may be factors other than economic benefits and costs that agencies will want to weigh in decisions, such as equity within and across generations.

It is important to compare the benefits and costs of a proposed regulatory requirement not only to the status quo but also to alternative regulatory approaches and levels of stringency that could be adopted. Systematic review of benefits and costs can often identify opportunities to modify proposed requirements in ways that increase benefits at relatively low cost or reduce costs substantially with little loss in benefits.

The scale of the benefit-cost assessment should be related to the importance of the decision. The scale of the assessment should depend on both the stakes involved and the likelihood that the resulting information will affect the ultimate decision.

Not all impacts of a decision can be quantified or expressed in dollar terms. Care should be taken to ensure that quantitative factors do not dominate qualitative factors in decision making. A common critique of benefit-cost comparisons is that they do not emphasize factors that are not easily quantified

or monetized. That critique has merit. There are two principal ways to address it: first, quantify as many factors as reasonable and quantify or characterize the relevant uncertainties; and second, give due consideration to factors that defy quantification but are thought to be important.

CONCLUSION

We believe that this case provides the Court with an important opportunity to provide for sound decision making in environmental matters. Systematic comparisons of benefits and costs have been important elements of government decision making in environmental matters—including §316(b) of the Clean Water Act—for many decades. We believe that decisions on environmental matters should be based upon a full assessment of benefits and costs, taking into account elements that cannot be quantified as well as uncertainties regarding various costs and benefits. This information will permit the appropriate balancing of benefits and costs in key environmental decisions.

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